NOTES:

1. ALL PROPOSED TRANSFORMERS TO BE MOUNTED ON 6'X6' CONCRETE EQUIPMENT PAD.
2. PROPOSED 15KV SWITCHES TO BE MOUNTED ON 7.5'X4' CONCRETE EQUIPMENT PAD.

APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE 14/01/16
DES SRC/NPT	DRW SRC · CHK JAD
<<PM/DM>>	
BRANCH MANAGER	
CHIEF ENG/ARCH	
<<XX>>	

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PROFESSIONAL ENGINEER

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION
MARINE CORPS BASE, QUANTICO, VIRGINIA

MARINE CORPS BASE QUANTICO
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

SITE UTILITY PLAN

SCALE:	AS NOTED
EPROJECT NO.:	QU1536M
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	3189934
SHEET	25 OF 105

C-118

DRAWFORM REVISION: 10 MARCH 2009

NOTES:

1. ALL PROPOSED TRANSFORMERS TO BE MOUNTED ON 6'X6' CONCRETE EQUIPMENT PAD.
2. PROPOSED 15KV SWITCHES TO BE MOUNTED ON 7.5'X4' CONCRETE EQUIPMENT PAD.

MATCHLINE C118

MATCHLINE C120

D.A.A-5

ELROD ROAD

CONC. WALL

PARKING

SIGN

SAN CO

N

0 30 60 Feet

NO.	DESCRIPTION	DATE	APP'R

NAVFAC

COMMONWEALTH OF VIRGINIA
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FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE 14/01/16

DES SRC/NPT DRW SRC CHK JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
MARINE CORPS BASE, QUANTICO, VIRGINIA
MARINE CORPS BASE QUANTICO
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

SITE UTILITY PLAN

SCALE: AS NOTED

EPROJECT NO.: QU1536M

CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 3189935

SHEET 26 OF 105

C-119

DRAWFORM REVISION: 10 MARCH 2009

MATCHLINE C118

MATCHLINE C119

3218

GATE

3218

A/C

GRAV

3236
DOME
STORAGE

TENT

TENT

GATE

R.F. & P. RAILROAD

3240
DIVE
& BOAT
LOCKER

C

DI

×18.88

×18.79

MO

CONC

MH

GATE

3232

CONC

536870918

3234

×6.64

3230

×6.75

3235

CONC

GRAV

CONC
3230A

MAINTENANCE
RAMP

MH

3231

PILE

POTOMAC RIVER

NOTES:

1. ALL PROPOSED TRANSFORMERS TO BE MOUNTED ON 6'X6' CONCRETE EQUIPMENT PAD.
2. PROPOSED 15KV SWITCHES TO BE MOUNTED ON 7.5'X4' CONCRETE EQUIPMENT PAD.

0 30 60 Feet

N

APVR | DATE | DESCRIPTION | BLD

NAVFAC

COMMONWEALTH OF VIRGINIA
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ACTIVITY

SATISFACTORY TO DATE 14/01/16

DES SRC/NPT DRW SRC CHK JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<OOO>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION
MARINE CORPS BASE, QUANTICO, VIRGINIA

MARINE CORPS BASE QUANTICO
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

SITE UTILITY PLAN

SCALE: AS NOTED

EPROJECT NO.: QU1536M

CONSTR. CONTR. NO.

NAVFAC DRAWING NO.
3189936

SHEET 27 OF 105

C-120

DRAWFORM REVISION: 10 MARCH 2009

NOTES:
1. CONTRACTOR SHALL USE LIGHT RUBBER TIRE VEHICLES FOR MINIMUM SITE DISTRUBANCE.
2. THE CONTRACTOR SHALL DISTURB ONLY AN AREA THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY. NO AREAS SHALL BE LEFT UN-STABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN EROSION & SEDIMENT CONTROL DEVICE.

SF SILT FENCE 1 C121 C131

(E)

(E)

(E)T-110

YECKEL SWITCH-2

3206 COMBAT OBSTACLE COURSE

SIGN

SIGN

GATE

TRANS

PARKING

2168

5121

FIRE

MATCHLINE C123

MATCHLINE C124

0 30 60 Feet

N

NO.	DATE	DESCRIPTION	INIT

NAVFAC

JOHN ALEXANDER DORAN
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ACTIVITY

SATISFACTORY TO DATE 14/01/16

DES SRC/NPT DRW SRC CHK JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

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NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
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MARINE CORPS BASE, QUANTICO, VIRGINIA

MARINE CORPS BASE QUANTICO
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

EROSION AND SEDIMENT CONTROL PLAN

SCALE: AS NOTED
EPROJECT NO.: QU1536M
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 3189937
SHEET 28 OF 105

C-121

DRAWFORM REVISION: 10 MARCH 2009

NOTES:
1. CONTRACTOR SHALL USE LIGHT RUBBER TIRE VEHICLES FOR MINIMUM SITE DISTRUBANCE.
2. THE CONTRACTOR SHALL DISTURB ONLY AN AREA THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY. NO AREAS SHALL BE LEFT UN-STABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN EROSION & SEDIMENT CONTROL DEVICE.

SF SILT FENCE 1 C121 C131

MATCHLINE C123

SIGN

536870919

31.65

31.32

134

0 30 60 Feet

N

NO.	DESCRIPTION	DATE	APP'R

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SATISFACTORY TO DATE 14/01/16

DES SRC/NPT DRW SRC CHK JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

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NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE, QUANTICO, VIRGINIA
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

EROSION AND SEDIMENT CONTROL PLAN

SCALE: AS NOTED
EPROJECT NO.: QU1536M
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 3189938
SHEET 29 OF 105

C-122

DRAWFORM REVISION: 10 MARCH 2009

MATCHLINE C121

NOTES:
1. CONTRACTOR SHALL USE LIGHT RUBBER TIRE VEHICLES FOR MINIMUM SITE DISTRUBANCE.
2. THE CONTRACTOR SHALL DISTURB ONLY AN AREA THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY. NO AREAS SHALL BE LEFT UN-STABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN EROSION & SEDIMENT CONTROL DEVICE.

SF SILT FENCE

1 C123 C131

INLET PROTECTION 3 C123 C131

MATCHLINE C122

MATCHLINE C124

MATCHLINE C125

CREEK

3256G

2187

2189

5003
OCS BRANCH
MEDICAL CENTER

ASRH PARKING
PL-27

GATE

0 30 60 Feet

N

NO.	DESCRIPTION	DATE	APP'R

NAVFAC

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ACTIVITY

SATISFACTORY TO DATE 14/01/16

DES SRC/NPT DRW SRC CHK JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

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NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
MARINE CORPS BASE, QUANTICO, VIRGINIA
MARINE CORPS BASE QUANTICO
QUANTICO, VA
P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES
EROSION AND SEDIMENT CONTROL PLAN

SCALE: AS NOTED
EPROJECT NO.: QU1536M
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 3189939
SHEET 30 OF 105

C-123

DRAWFORM REVISION: 10 MARCH 2009

MATCHLINE C121

MATCHLINE C123

MATCHLINE C126

NOTES:
1. CONTRACTOR SHALL USE LIGHT RUBBER TIRE VEHICLES FOR MINIMUM SITE DISTRUBANCE.
2. THE CONTRACTOR SHALL DISTURB ONLY AN AREA THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY. NO AREAS SHALL BE LEFT UN-STABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN EROSION & SEDIMENT CONTROL DEVICE.

SF — SILT FENCE — 1 / C124 | C131

INLET PROTECTION — 3 / C124 | C131

ASPH PARKING
R.F. & P. RAILROAD
PARKING
2112
LARSON GYM
C
CANOPY
ASPH
2165 TENNIS COURTS
3233
1748 RAMP
FOOT BRIDGE
ELROD ROAD
6' CLF

0 30 60 Feet

N

APR			
DATE			
DESCRIPTION			
INIT			

NAVFAC

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FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE 14/01/16

DES SRC/NPT DRW SRC CHK JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XX>>

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NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE, QUANTICO, VIRGINIA
MARINE CORPS BASE QUANTICO
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

EROSION AND SEDIMENT CONTROL PLAN

SCALE: AS NOTED
EPROJECT NO.: QU1536M
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 3189940
SHEET 31 OF 105

C-124

DRAWFORM REVISION: 10 MARCH 2009

MATCHLINE C123

NOTES:
1. CONTRACTOR SHALL USE LIGHT RUBBER TIRE VEHICLES FOR MINIMUM SITE DISTRUBANCE.
2. THE CONTRACTOR SHALL DISTURB ONLY AN AREA THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY. NO AREAS SHALL BE LEFT UN-STABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN EROSION & SEDIMENT CONTROL DEVICE.

INLET PROTECTION 3 C125 C131

2118

3191 REACTION COURSE

ATHLETIC FIELD

PARADE GROUND

BLEACHERS

MH

MATCHLINE C127

MATCHLINE C129

0 30 60 Feet

N

NO.	DESCRIPTION	DATE	APP'R

NAVFAC

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JOHANN ALEXANDER DORAN
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ACTIVITY

SATISFACTORY TO DATE 14/01/16

DES SRC/NPT DRW SRC CHK JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
MARINE CORPS BASE, QUANTICO, VIRGINIA
MARINE CORPS BASE QUANTICO QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

EROSION AND SEDIMENT CONTROL PLAN

SCALE: AS NOTED
EPROJECT NO.: QU1536M
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 3189941
SHEET 32 OF 105

C-125

DRAWFORM REVISION: 10 MARCH 2009

MATCHLINE C124

MATCHLINE C125

MATCHLINE C127

NOTES:
1. CONTRACTOR SHALL USE LIGHT RUBBER TIRE VEHICLES FOR MINIMUM SITE DISTRUBANCE.
2. THE CONTRACTOR SHALL DISTURB ONLY AN AREA THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY. NO AREAS SHALL BE LEFT UN-STABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN EROSION & SEDIMENT CONTROL DEVICE.

SF ——— SILT FENCE C126 C131

INLET PROTECTION 3 C126 C131

72 AIR GROUND MUSEUM

ASPH PARKING

FLEMING STREET

PARKING

2121

LOADING DOCK

RAMP

STORAGE UNITS

AIR GROUND MUSEUM

1

2

N

0 30 60 Feet

COMMONWEALTH OF VIRGINIA
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ACTIVITY

SATISFACTORY TO DATE 14/01/16

DES SRC/NPT DRW SRC CHK JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

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NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE, QUANTICO, VIRGINIA

MARINE CORPS BASE QUANTICO
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

EROSION AND SEDIMENT CONTROL PLAN

SCALE: AS NOTED
EPROJECT NO.: QU1536M
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 3189942
SHEET 33 OF 105

C-126

DRAWFORM REVISION: 10 MARCH 2009

MATCHLINE C125

MATCHLINE C126

NOTES:
1. CONTRACTOR SHALL USE LIGHT RUBBER TIRE VEHICLES FOR MINIMUM SITE DISTRUBANCE.
2. THE CONTRACTOR SHALL DISTURB ONLY AN AREA THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY. NO AREAS SHALL BE LEFT UN-STABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN EROSION & SEDIMENT CONTROL DEVICE.

SF — SILT FENCE (1 / C127 C131)

INLET PROTECTION (3 / C127 C131)

MATCHLINE C128

0 30 60 Feet

N

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1-14-16

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ACTIVITY

SATISFACTORY TO DATE 14/01/16

DES SRC/NPT DRW SRC CHK JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XX>>

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NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION
MARINE CORPS BASE, QUANTICO, VIRGINIA

MARINE CORPS BASE QUANTICO
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

EROSION AND SEDIMENT CONTROL PLAN

SCALE:	AS NOTED
EPROJECT NO.:	QU1536M
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	3189943
SHEET 34 OF 105	

C-127

DRAWFORM REVISION: 10 MARCH 2009

NOTES:
1. CONTRACTOR SHALL USE LIGHT RUBBER TIRE VEHICLES FOR MINIMUM SITE DISTRUBANCE.
2. THE CONTRACTOR SHALL DISTURB ONLY AN AREA THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY. NO AREAS SHALL BE LEFT UN-STABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN EROSION & SEDIMENT CONTROL DEVICE.

SILT FENCE — 1 C123 C131

MATCHLINE C129

MATCHLINE C130

MATCHLINE C127

0 30 60 Feet

N

NO	DESCRIPTION	DATE	APP'R

NAVFAC

COMMONWEALTH OF VIRGINIA
JOHANN ALEXANDER DORAN
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ACTIVITY

SATISFACTORY TO DATE 14/01/16

DES	SRC/NPT	DRW	SRC	CHK	JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XX>>

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NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
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MARINE CORPS BASE, QUANTICO, VIRGINIA

MARINE CORPS BASE QUANTICO
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

EROSION AND SEDIMENT CONTROL PLAN

SCALE: AS NOTED
EPROJECT NO.: QU1536M
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 3189944
SHEET 35 OF 105

C-128

DRAWFORM REVISION: 10 MARCH 2009

NOTES:
1. CONTRACTOR SHALL USE LIGHT RUBBER TIRE VEHICLES FOR MINIMUM SITE DISTRUBANCE.
2. THE CONTRACTOR SHALL DISTURB ONLY AN AREA THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY. NO AREAS SHALL BE LEFT UN-STABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN EROSION & SEDIMENT CONTROL DEVICE.

MATCHLINE C128

MATCHLINE C130

SAN CO
ELROD ROAD
CONC WALL
PARKING
SIGN
ASW
3' CHDW
W (2) 12

0 30 60 Feet

N

NO.	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
JOHN ALEXANDER DORAN
Lic. No. 022078
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ACTIVITY

SATISFACTORY TO DATE 14/01/16

DES SRC/NPT DRW SRC CHK JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION

NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
MARINE CORPS BASE, QUANTICO, VIRGINIA

MARINE CORPS BASE QUANTICO QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

EROSION AND SEDIMENT CONTROL PLAN

SCALE: AS NOTED
EPROJECT NO.: QU1536M
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 3189945
SHEET 36 OF 105

C-129

DRAWFORM REVISION: 10 MARCH 2009

MATCHLINE C128

MATCHLINE C129

GATE
3218
A/C
GRAV
3236
DOME
STORAGE
TENT
TENT
GATE
R.F. & P. RAILROAD
18.88
18.79
3240
DIVE
& BOAT
LOCKER
C
DI
3232
536870918
MO
CONC
MH
GATE
CONC
GATE
3230
6.64
6.75
3235
GRAV
CONC
3230A
MAINTENANCE
RAMP
MH
3231
PILE
POTOMAC RIVER

NOTES:
1. CONTRACTOR SHALL USE LIGHT RUBBER TIRE VEHICLES FOR MINIMUM SITE DISTRUBANCE.
2. THE CONTRACTOR SHALL DISTURB ONLY AN AREA THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY. NO AREAS SHALL BE LEFT UN-STABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN EROSION & SEDIMENT CONTROL DEVICE.

SF — SILT FENCE

1/ C130 C131

N

0 30 60 Feet

APPR | DATE | DESCRIPTION | NUM

NAVFAC

COMMONWEALTH OF VIRGINIA
JOHN ALEXANDER DORAN
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1-14-16

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APPROVED

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ACTIVITY

SATISFACTORY TO DATE 14/01/16

DES SRC/NPT DRW SRC CHK JAD

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

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NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION
NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE, QUANTICO, VIRGINIA

MARINE CORPS BASE QUANTICO
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM
SUBSTATION, CONDUITS, AND CABLES

EROSION AND SEDIMENT CONTROL PLAN

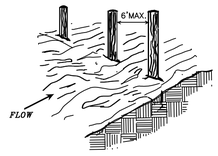
SCALE: AS NOTED
EPROJECT NO.: QU1536M
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 3189946
SHEET 37 OF 105

C-130

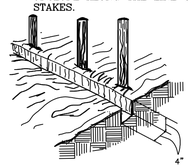
DRAWFORM REVISION: 10 MARCH 2009

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

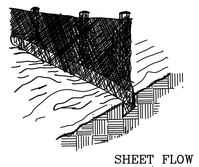
1. SET THE STAKES.



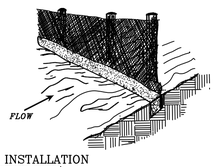
2. EXCAVATE A 4"X 4" TRENCH UPSLOPE ALONG THE LINE OF STAKES.



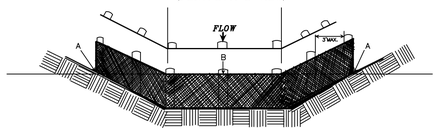
3. STAPLE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



SHEET FLOW INSTALLATION
(PERSPECTIVE VIEW)



POINTS A SHOULD BE HIGHER THAN POINT B.

DRAINAGEWAY INSTALLATION
(FRONT ELEVATION)

SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control,VA. DSWC Sherwood and Wyant

PLATE. 3.05-2

1 C121 TO C130 C131 **SILT FENCE** NOT TO SCALE

TABLE 3.32–C
SITE SPECIFIC PERMANENT SEEDING MIXTURES
FOR APPALACHIAN/MOUNTAIN AREA

	Total Lbs. Per Acre
Minimum Care Lawn	
– Commercial or Residential	200–250 lbs.
– Ryegrass	90–100%
– Improved Perennial Ryegrass *	0–10%
High–Maintenance Lawn	
Minimum of three (3) up to five (5) varieties of bluegrass from approved list for use in Virginia.	125 lbs.
General Slope (3:1 or less)	
– Ryegrass	128 lbs.
– Red Top Grass	2 lbs.
– Seasonal Nurse Crop**	20 lbs.
	150 lbs
Low–Maintenance Slope (Steeper than 3:1)	
– Ryegrass	108 lbs.
– Red Top Grass	2 lbs.
– Seasonal Nurse Crop**	20 lbs.
– Crownvetch ***	20 lbs.
	150 lbs

* Perennial Ryegrass will germinate faster and at lower soil temperatures than fescue, thereby providing cover and erosion resistance for seedbed.

** Use seasonal nurse crop in accordance with seeding dates as stated below:

March, April through May 15th	Annual Rye
May 16th through August 15th	Foxtail Millet
August 16th through Sept.,Oct.	Annual Rye
November through February	Winter Rye

*** If Flatpea is used, increase to 30 lbs./acre. All legume seed must be properly inoculated. Weeping Lovegrass may also be included in any slope or low–maintance mixtures during warmer seeding periods; add 10–20 lbs/acre in mixes.

TABLE 3.31–B

ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS

"QUICK REFERENCE FOR ALL REGIONS"

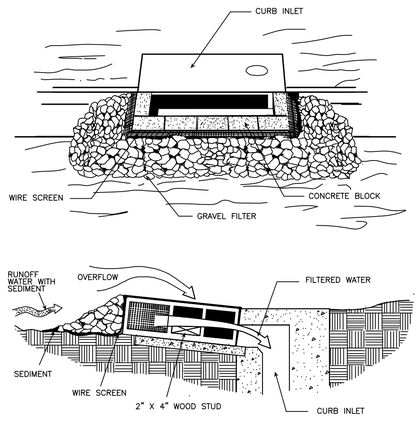
Planting Dates	Species	Rate (lbs./acre)
Sept. 1 – Feb. 15	50/50 Mix of Annual Ryegrass (Lolium multi–florum) & Cereal (Winter) Rye (Secal cereale)	50 – 100
Feb. 16 – Apr. 30	Annual Ryegrass (Lolium multi–florum)	60 – 100
May 1 – Aug. 31	German Millet (Setaria italica)	50

Seeding

Seed shall be evenly applied with a broadcast seeder, drill, cultipacker seeder or hydroseeder. Small grains shall be planted no more than one inch deep. Grasses and legumes shall be planted with no less than 1/4" soil cover.

2 C121 TO C130 C131 **PERMANENT SEEDING TABLES** NOT TO SCALE

BLOCK & GRAVEL CURB INLET SEDIMENT FILTER



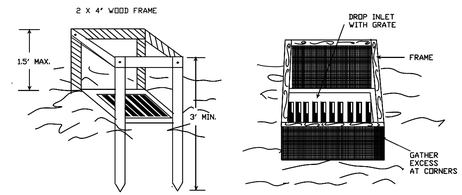
SPECIAL APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

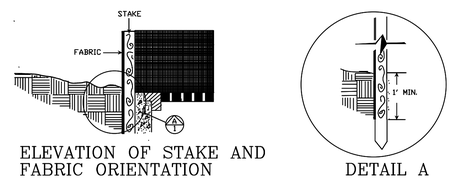
* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE

SOURCE: VA. DSWC PLATE 3.07–8

SILT FENCE DROP INLET PROTECTION



PERSPECTIVE VIEWS



ELEVATION OF STAKE AND FABRIC ORIENTATION

DETAIL A

SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

SOURCE: N.C. Erosion and Sediment Control Planning and Design Manual, 1988 PLATE 3.07–1

3 C121 TO C130 C131 **STORM DRAIN INLET PROTECTION** NOT TO SCALE

APR	
DATE	
DESCRIPTION	
BY	

NAVFAC

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BRANCH MANAGER

CHIEF ENG/ARCH

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DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
NAVAL FACILITIES ENGINEERING COMMAND
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION
MARINE CORPS BASE, QUANTICO, VIRGINIA
MARINE CORPS BASE QUANTICO
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM
SUBSTATION, CONDUITS, AND CABLES

EROSION & SEDIMENT CONTROL DETAILS

SCALE: AS NOTED

EPROJECT NO.: QU1536M

CONSTR. CONTR. NO.

NAVFAC DRAWING NO.
3189947

SHEET 38 OF 105

C-131

DRAWFORM REVISION: 10 MARCH 2009

EROSION & SEDIMENT CONTROL STANDARD NOTES

1. ALL EROSION CONTROL MEASURES SHOWN ON THE APPROVED PLAN MUST BE IN PLACE AND INSPECTED AND APPROVED BY THE OWNER INSPECTOR PRIOR TO CLEARING, STRIPPING OF TOPSOIL OR GRADING.

2. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE KEPT ON THE SITE AT ALL TIMES.

3. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE OWNER.

4. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL COMPLETE AND ADEQUATE STABILIZATION IS ACHIEVED.

5. WATER MUST BE PUMPED INTO AN APPROVED FILTERING DEVICE DURING DEWATERING OPERATIONS.

6. ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND THE VIRGINIA REGULATIONS VR 625–02–00 EROSION AND SEDIMENT CONTROL REGULATIONS.

7. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROLPRACTICES AT ALL TIMES.

8. THE CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL MEASURES DAILY AND AFTER EACH SIGNIFICANT RAINFALL.

   A. GRAVEL OUTLETS WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF THE GRAVEL IS CLOGGED BY SEDIMENT, IT SHALL BE REMOVED AND CLEANED OR REPLACED.

   B. SILT FENCE BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.

   C. SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.

   D. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVISES MUST BE MADE IMMEDIATELY AFTER THE INSPECTION.

9. SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.

10. PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE.

11. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN FOURTEEN (14) DAYS. SEEDING AND SELECTION OF THE SEED MIXTURE SHALL BE IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK STANDARD AND SPECIFICATION 3.32. ROADS AND PARKING AREAS SHALL BE STABILIZED WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED.

12. WHEN SEDIMENT IS TRANSPORTED ONTO A PAVED ROAD SURFACE, THE ROAD WILL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT WILL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING WILL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.

13. AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC. TREE SAVE AREAS SHALL BE CLEARLY MARKED IN THE FIELD.

14. NO EROSION & SEDIMENT CONTROL MEASURE SHALL BE REMOVED WITHOUT THE PERMISSION OF THE OWNER.

GENERAL E&S NOTES:

THE OWNER HAS THE AUTHORITY TO ADD OR DELETE EROSION AND SEDIMENT CONTROLS IN THE FIELD AS SITE CONDITIONS WARRANT. IN ADDITION, NO SEDIMENT TRAP DEVICES MAY NOT BE REMOVED WITHOUT PRIOR APPROVAL OF THE OWNER.

AFTER CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS HAVE BEEN STABILIZED, MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED AND THE DETENTION BASIN MUST BE PERMANENTLY STABILIZED WITH VEGETATION UPON THE APPROVAL OF THE OWNER.

MINIMUM CONSTRUCTION STANDARDS NARRATIVE

1. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

2. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

3. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

4. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
   A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
   B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
   C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF–SITE PROPERTY.
   D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
   E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
   F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

5. THE CONTRACTOR SHALL USE LIGHT RUBBER TIRE VEHICLES FOR MINIMUM SITE DISTURBANCE.

6. THE CONTRACTOR SHALL DISTURB ONLY AN AREA THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY. NO AREAS SHALL BE LEFT UN–STABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN EROSION & SEDIMENT CONTROL DEVICE.

NO	DATE	DESCRIPTION

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CHIEF ENG/ARCH

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RESIDENT OFFICER IN CHARGE OF CONSTRUCTION

NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
MARINE CORPS BASE, QUANTICO, VIRGINIA

MARINE CORPS BASE QUANTICO — QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM SUBSTATION, CONDUITS, AND CABLES

EROSION & SEDIMENT CONTROL NOTES

SCALE: AS NOTED

EPROJECT NO.: QU1536M

CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 3189948

SHEET 39 OF 105

C-132

DRAWFORM REVISION: 10 MARCH 2009

Virginia Runoff Reduction Method ReDevelopment Worksheet - v2.8 - June 2014

Site Data Summary

Total Rainfall = 43 inches

Site Land Cover Summary

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	*0.00*
Turf (acres)	0.00	0.00	0.00	0.68	0.68	*76.66*
Impervious (acres)	0.00	0.00	0.00	0.21	0.21	*23.34*
					0.89	*100.00*

Site Rv	0.41
Post Development Treatment Volume (ft³)	1331
Post Development TP Load (lb/yr)	0.84
Post Development TN Load (lb/yr)	5.98
Total TP Load Reduction Required (lb/yr)	0.10

Total Runoff Volume Reduction (ft³)	165
Total TP Load Reduction Achieved (lb/yr)	0
Total TN Load Reduction Achieved (lb/yr)	0.74
Adjusted Post Development TP Load (lb/yr)	0.73
Remaining Phosphorous Load Reduction (Lb/yr) Required	0.00

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	*0.00*
Turf (acres)	0.25	0.00	0.00	0.00	0.00	*0.25*
Impervious (acres)	0.03	0.00	0.00	0.00	0.00	*0.03*
						0.28

Drainage Area Compliance Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Red. (lb/yr)	0.10	0.00	0.00	0.00	0.00	*0.10*
TN Load Red. (lb/yr)	0.74	0.00	0.00	0.00	0.00	*0.74*

Drainage Area A Summary

Land Cover Summary

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	*0.00*
Turf (acres)	0.00	0.00	0.00	0.25	0.25	*89.29*
Impervious (acres)	0.00	0.00	0.00	0.03	0.03	*10.71*
					0.28	

BMP Selections

Practice	Credit Area (acres)		Downstream Practice
9.b. Sheetflow to Conservation Area with C/D Soils (Spec #2)	**Impervious:**	**0.03**	
	Turf (Pervious):	**0.25**	

Total Impervious Cover Treated (acres)	0.03
Total Turf Area Treated (acres)	0.25
Total TP Load Reduction Achieved in D.A. A (lb/yr)	0.10
Total TN Load Reduction Achieved in D.A. A (lb/yr)	0.74

Channel and Flood Protection

	Weighted CN	1-year storm Adjusted CN	2-year storm Adjusted CN	10-year storm Adjusted CN
Target Rainfall Event (in)		4.88	5.75	7.27
D.A. A CN	82	80	80	80
D.A. B CN	0	#N/A	#N/A	#N/A
D.A. C CN	0	#N/A	#N/A	#N/A
D.A. D CN	0	#N/A	#N/A	#N/A
D.A. E CN	0	#N/A	#N/A	#N/A

NO.	DESCRIPTION	DATE	APP'R

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MARINE CORPS BASE QUANTICO
QUANTICO, VA

P714 REPAIR OCS ELECTRIC SYSTEM
SUBSTATION, CONDUITS, AND CABLES

SWM/BMP CALCS & DETAILS

SCALE: AS NOTED

EPROJECT NO.: QU1536M

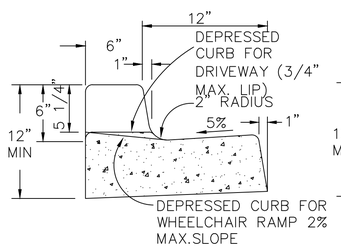
CONSTR. CONTR. NO.

NAVFAC DRAWING NO.
3189949

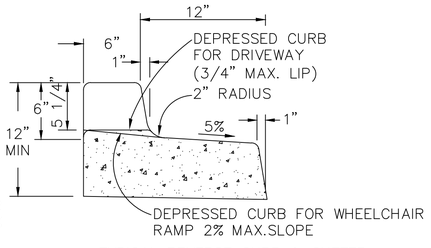
SHEET 40 OF 105

C-133

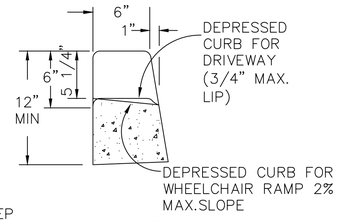
DRAWFORM REVISION: 10 MARCH 2009



TYPICAL STANDARD CURB & GUTTER



TYPICAL REVERSE CURB & GUTTER

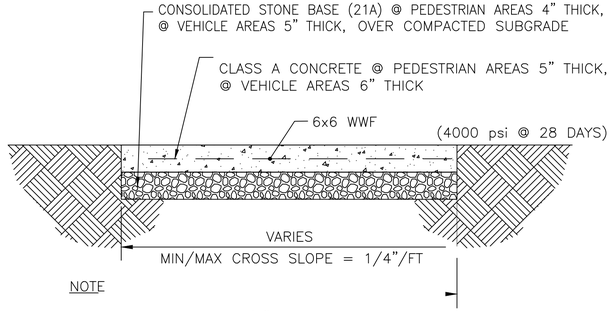


TYPICAL STRAIGHT CURB AND GUTTER.

NOTES:
1. ALL RADII SHALL BE 3/4" EXCEPT AS OTHERWISE SHOWN.
2. ISOLATION JOINTS SHALL BE PLACED AS SPECIFIED.
3. CONTRACTION JOINTS SHALL BE PLACED AT 15' INTERVALS AND SHALL EXTEND AT LEAST 50% THROUGH THE CURB OR CURB
4. A CONTRACTION JOINT SHALL BE PLACED ALONG AND OVER WEEP HOLE THROUGH THE CURB AND THROUGH THE SIDEWALK.

1 CURB AND GUTTER
C102 | C-134 SCALE NTS

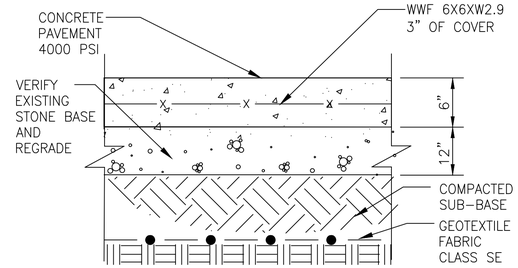
C104,C105
C106,C107



NOTE
1. EXPANSION JOINTS 1/2" WIDE PREMOULDED BIT MATERIAL SHALL BE INSTALLED AT 30' INTERVALS. CONTRACTION JOINTS TO BE SPACED AT EQUAL INTERVALS, 5' MAXIMUM LENGTH.

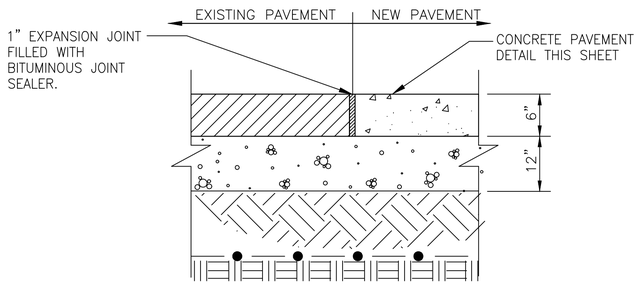
2 CONCRETE RESTORATION
C101 | C-134 SCALE NTS

C103,C104
C105,C106
C107



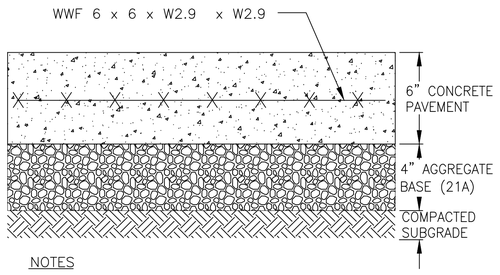
3 PAVEMENT DETAIL
C101 | C-134 SCALE NTS

C103,C104
C105,C106
C107,C108



4 SAWCUT DETAIL
C101 | C-134 SCALE NTS

C103,C104
C105,C106
C107,C108



NOTES
1. TOOLED CONTRACTION JOINTS EVERY 6' MINIMUM.
2. EXPANSION JOINT 20' MAXIMUM SPACING AND AT STRUCTURES.
3. COMPACT SOIL MATERIAL TO, NOT LESS THAN, 95% OF MAX DRY UNIT WEIGHT.

5 CONCRETE UTILITY PAD
C101 | C-134 SCALE NTS

C103,C104
C105,C106
C107,C108

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APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE 14/01/16
DES SRC/NPT DRW SRC CHK JAD
<<PM/DM>>
BRANCH MANAGER
CHIEF ENG/ARCH
<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION
NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE, QUANTICO, VIRGINIA
MARINE CORPS BASE QUANTICO
QUANTICO, VA
P714 REPAIR OCS ELECTRIC SYSTEM
SUBSTATION, CONDUITS, AND CABLES
DETAILS

SCALE: AS NOTED
EPROJECT NO.: QU1536M
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 3189950
SHEET 41 OF 105
C-134
DRAWFORM REVISION: 10 MARCH 2009

APPR | DATE | DESCRIPTION | BY